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Reflections on the Place of Veterinary Surgery in the Scheme of Things*

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There are times when we feel the necessity of contemplation on the order and value of things, seeking meaning and purpose in our job of earning a living. To me, such times came when presiding over this Society's deliberations of the past session, which were devised in celebration of the centenary of our parent body, the Royal College of Veterinary Surgeons. Examining a variety of our activities, speakers have reminded us of what our profession has done and is doing on behalf of animals, and have endeavoured to point out how we might meet the needs of the near future. All these subjects of discussion were linked together by the tradition of our profession, *i.e.*, the particular way of thinking and practice which is handed down from generation to generation of veterinary surgeons.

When entrusted on March 30th with the honour, for which I am deeply grateful, of expressing this Society's loyalty, affection and gratitude to our parent body, I was conscious of all that our parent body signifies to us. In our daily practical work we take it and our tradition for granted; I hope we can spare a little time for its consideration to-day. How does our way of thinking and doing fit into the scheme of things? Does the tradition of veterinary surgery contribute something unique to abstract thought and philosophy?

According to the Royal Charter of Incorporation (March 8th, 1844) the members of the Royal College of Veterinary Surgeons "shall be individually known and distinguished by the name or title of Veterinary Surgeon," which title had been used from 1793 by the Governors of the Royal Veterinary College, London, in their periodic addresses to their subscribers and the general public. Neither the 18th century pioneers in veterinary education nor the Charter of 1844 specifically defined the practice of the veterinary surgeon as veterinary surgery; and incidentally neither body of our founders made use of titles like "veterinarian," "physician of the farm" and such clichés. Our title is veterinary surgeon, which implies that the correct name for our work is veterinary surgery. Later on, the Veterinary Surgeons Act (1881) defined *veterinary surgery* comprehensively as "the art and science of veterinary surgery and medicine." In examination lists and college prospectuses it has been convenient and proper to make use of the term "veterinary surgery" in its limited sense as the manual operative treatment of the sick animal. But I can see no justification for, or propriety in, change of the title or functional name with which we were endowed at our birth. Whether as general practitioner, specialist or government official, we have nothing to be ashamed or critical of in our distinctive legal title of veterinary surgeon, or in our distinctive art and science of veterinary surgery.

Veterinary surgery is both an art and a science, a skill and a corpus of formulated knowledge; it is a way of thinking and doing; for what purpose? For the answer to this question we turn to the Charter of 1844, which states ". . . their practice, under the blessing of Divine Providence, tends greatly to the alleviation of the sufferings of those animals confided to their care." Though not expressly stated in this quotation, from its context we may safely infer that our founders fully appreciated that the veterinary surgeon's practical purpose was to earn his living. That fact admitted, I want to pass on to the clear definition of the veterinary surgeon's purpose as "the alleviation of the sufferings of the animals confided to their care."

The veterinary surgeon's patients are particularised; they are not all and sundry animals; they are the animals which are confided to the veterinary surgeon's care by the owner or guardian. I take our founders' word "confided" to mean "entrusted." This act of entrusting implies that the owner recognises the superiority of the veterinary surgeon's skill to his own and other laymen's; and has confidence in it. And as a consequence of that feeling of confidence he entrusts his animal for the time being to the veterinary surgeon. By that act the owner temporarily surrenders his property to the veterinary surgeon, thus leaving but two parties to the exercise of veterinary surgery. Here we have the essential relationship for the exercise of veterinary surgery, the veterinary surgeon-patient relationship. This is also the essential relationship pertaining to the practice of human medicine.

There is an additional significance attaching to our founders' words. The veterinary surgeon-patient relationship is for the exercise of veterinary surgery as the means tending to the alleviation of the patient's suffering. Our founders neither stated nor implied that the purpose of the veterinary surgeon-patient relationship was "to promote the health of animals," a notion which recently has gained some measure of publicity. Health does not incommode man so that he entrusts himself and his liberties to his doctor; man needs health; his plans for the business of life are based upon it; and when he has health he is not conscious of it. Likewise, I am not aware that healthy animals have need of the veterinary surgeon. I can give no support to those who claim the promotion of animal health as the primary, or even an essential, purpose of veterinary surgery. Veterinary surgery has contributed and will continue to contribute valuable advice on the promotion and maintenance of animal health. But it would seem that health is a dynamic consequence of all which is comprehended by the skill and economics of stock owners and many distinctive scientific bodies, embracing geography, breeding, feeding, husbandry, housing, marketing, and so forth. Also, I would suggest that care be taken not to confuse "prevention of disease" with "promotion of health." The terms are not synonymous. Preventive and curative are the twin components of treatment; in practice usually they are inseparable. Preventive treatment necessitates the doing of something, the effects of which are assessable only at a future date; and it is applied to a particular case at a particular time for a particular purpose.

"They that are whole need not a physician" (Luke v, 31). These words of profound wisdom imply that it is they who are *not whole* who require doctoring. This conception of the wholeness of life is very ancient. When we moderns recognise suffering as essentially due to exhaustion of parts, parts of the creature's impulse to exist, grow and reproduce its kind, we are not adding much to the notions of 2,000 years ago. He who rendered whole or heals, was the healer; a word we derive from the Anglo-Saxon "hǽlan"; and so it comes about that doctors and veterinary surgeons are derived of the common stock of healers. Thus the essential purpose of veterinary surgery, as of human medicine, is to heal the patient of his exhausted parts.

Though I have concluded that the essential purpose of veterinary surgery is to heal the animal which is not whole, we must face the fact that our founders did not say so. What they said seems to me to be a noteworthy example of English understatement. They said that the practice of veterinary surgery "under the blessing of Divine Providence, tends greatly to the alleviation of the sufferings" of animals. A modest claim and a very guarded prognosis are what our founders made. Moreover, they qualified their modest claim by the words "under the blessing of Divine Providence." We may infer that our founders, by making this significant qualification, visualised the purpose of our profession as both practical and ideal. They set before each one of us the task of harmonising the natural with the spiritual worlds and thus of learning the truth that both are one and the same world.

It seems to me that we have now reached the point at which we can see something of the grandeur of our purpose as healers of animal suffering; for our work comprehends the wholeness of the world of being. Let us try to see how far we can look upon the way and the horizon ahead.

Veterinary surgeons, who are constantly concerned with the pain and fear of their patients, are among those who endow animals with mind and its accompaniments, such as feeling and knowing. We observe, for example, the protective reflex which is evoked through the noviceptor organs; we measure the quality of the patient's behaviour and infer that the patient feels and knows pain. That is just about as far as the doctor can go. I admit that some of his patients are capable of confirming the doctor's inference by telling him what they feel and know; but some patients are liars and others can be imbeciles and their testimony may be rather embarrassing. The doctor, like the veterinary surgeon, can only experience his own mind and make a shrewd guess at the mind of his patient. So it has come about that generations of veterinary surgeons have worked on the inference that animals have minds and a variety of emotions; and no one to-day can say that they have been wrong in so doing.

* Presidential Address to the Central Veterinary Society, October 12th, 1944.

We can observe the signs and sounds by which an animal communicates its emotions to others of its kind. We can arrange the signs and sounds into patterns. By differentiating one pattern from another we can diagnose depression or anger or some other emotion. It seems to me that the emotional expressions of animals are divisible into two main types: (1) a *turning towards* another individual or object as in distress, pain, sexual appetite, curiosity and anger; and (2) a *turning away* from another individual or object as in depression, fear and panic. What veterinary surgeon is not acutely sensitive to his patient's emotions at reception or during examination? The patient's emotions assist or retard the veterinary surgeon's work; when related to the whole clinical picture they are of diagnostic value, as, for example, in organic disease of the brain or some derangement of the hormones. But there is another consideration, which belongs to my theme. The turning *towards* (sympathy) or *away from* (antipathy) emotions of the patient may be evoked by the veterinary surgeon himself; as many clients observe only too quickly.

I count it one of the major blessings of my career to know and to have had the opportunity of observing certain doctors and veterinary surgeons, whose presence usually evokes the turning *towards* emotions of their patients. It happens with some, not all, doctors and veterinary surgeons. It is the most precious quality of the healer. We still speak of the phenomenon as "touch," "clinical touch." The word derived from the notion that the flow of influence from one being to another being was effected by physical contact, particularly manual contact; for example, "the laying on of hands," "the touch of a pianist." The expression of "clinical touch" is consequent upon the presence of, but not contact with, the veterinary surgeon. We come nearer its meaning in the term "the Nelson touch," signifying the unique way in which an individual deals with a situation. But by following this particular line of thought the meaning of "clinical touch," which I am striving to convey, eludes me. Let us cast about for another line.

I spoke of "touch" as a flow of influence. You will recall St. Luke's record (viii, 46) of what Jesus said after the border of his garment had been touched by the woman having an issue of blood twelve years; "Some one did touch me; for I perceived that power had gone forth from me." The same evangelist also records (vi, 19): "And all the multitude sought to touch him: for power came forth from him and healed them all." The translators of our Authorised Version used the word "power" for St. Luke's Greek word meaning "virtue" in its medical sense, as the quality by which a substance acts and produces effects on other substances (for example, the *virtue* of a drug). Thus from the veterinary surgeon, who has "touch," virtue emerges; but only the patient (the percipient) and possibly its owner are aware of it. The patient responds by a turning *towards* emotion. The veterinary surgeon observes his patient's behaviour and proceeds to his investigation, but he is not conscious of virtue passing from him, so concentrated is he on his job. Later on he may be conscious of fatigue and his memory of the incident would be of his fatigue. Of course, the phenomenon may not occur owing to the patient's condition (for example, semi-coma) or past experiences (persecution). The veterinary surgeon who habitually applies physical restraint to his patients, is lacking in "clinical touch."

We have arrived at the stage of saying that the quality of the veterinary surgeon-patient relationship rests not only on his skill and knowledge but also on his personality, by which the patient is soothed or disquieted. Thus the presence or absence of "clinical touch" in the healer would seem to be correlated with, or a function of, a person's attitude to animals.

Many men are indifferent to animals. Many regard them solely for their utility in work, sport and food. Many derive aesthetic satisfaction from them. But I do not seem to find a very high proportion of men who try to understand animals, to enter into their inner life and to see them real and whole. Most beneficent statutes and orders operate for preventing cruelty and for animal welfare generally. But it seems that our legislation affecting living animals comprehends their bodies, not their minds. For the proof of cruelty objective bodily injury must be established. By the Sale of Goods Act (1893), parliament has decreed that living animals are goods. A century ago the law entitled a man to sell his wife as a chattel in Bradford market place. Nowadays we appear to have recognised the inexpediency of permitting men to dispose of their wives as goods. Possibly we are beginning to suspect that our ability to make motor cars has not yet extended to the manufacture of wives. Man and woman are capable of providing the wherewithal for the production of a child; but no child is forthcoming unless they inherit functional germ-plasm from their race. Man cannot make life. Essentially man and woman are the trustees of reproductive material on behalf of the race. The fact that sentient life is dependent on man as trustee does not entitle him to its ownership. Man is the consequence, not the cause, of the germ-plasm. These notions I would commend to members of the bench and bar, for whose erudition and clarity of definition I have a profound respect.

An eminent jurist, Sir James Fitzjames Stephens, defined mind as "a general name for the combined operations of sensation, intellect, emotion and volition" (Glaister, 1910, 2nd ed., pp. 517). Upon Stephens's definition veterinary surgeons would have no difficulty in recognising mind in their patients, or in distinguishing between an animal possessed of a sound mind, one of an impaired or enfeebled mind and one of no mind at all.

Animals are conscious beings undergoing continuous change. They who have observed free birds cannot fail to be impressed by the variability among individuals. No bird has its duplicate within its own species. With feathered friends in and about our homes we become acquainted not only with their bodily make-up but with their moods. We may be able to predict the behaviour of a flock over a period of time, but by knowing the conditions of its surroundings we cannot predict the behaviour of a member of the flock at a particular moment. We can do no more when observing the behaviour of a crowd at a football match. Who can predict that at a particular moment a particular football enthusiast will withdraw to the lavatory? He acts at the bidding of a reflex in conflict with his apparent interests because, so we say, he knows how to behave properly. And this is what we observe in those birds which do not foul the nest.

The essence of the training of a sheep-dog is to teach it to control its aggressive emotions towards sheep; and a dog which ignores its training is termed a "rogue." By contrasting the rogue sheep-dog's methods of chasing sheep with that of a rabid sheep-dog we could conclude that, owing to impairment of its mind by disease, the rabid dog could not comprehend the nature and effects of its acts; whereas the "rogue" did know what it was doing and the consequences thereof. To seek to excuse the "rogue" as obeying the bidding of instinct is to neglect the meaning of mind, of training and of the fact that an animal may be deterred by the fear or memory of punishment. Thus it seems reasonable to conclude that under certain clearly measured circumstances a case could be made for holding an animal responsible for its acts.

The legal implications of these cullings from personal experience, even if I were competent to discuss them, do not belong to my main theme. They serve to show that animal emotions and ideas are common to animal and man. As our great lyric poet, Robert Bridges, said they (the animal emotions and ideas) are "the mean statistical measure of mankind." The appreciation of this truth spreading through homes, schools, parliament and law courts, will produce more enlightened definitions of man's ownership or trusteeship of animals. But to us, who know these things, is the obligation for spreading the knowledge. The veterinary surgeon derives his income from satisfying his client in the treatment of his property, while he ministers to his patient as a sentient individual apart from, and sometimes in spite of, the owner's appreciation of the treatment. For the veterinary surgeon comprehends life, for which economic man is trustee, and life as observed by scientific and imaginative man; and the extent to which he succeeds in harmonising both is the measure of his happiness in his profession and of the wisdom of our founders.

One hundred and fifty years of organised vocational education and a century of self-imposed discipline have produced a thought and practice which is peculiar to, and the genius of, the veterinary profession. Let there be no mistake: the veterinary profession is no guardian of an orthodox or authoritative system; neither is it, nor can be, a branch or appendage of agriculture nor of any other industry or profession. It balances the limitations of scientific therapy against the potency of *vis medicatrix naturae*; and it recognises its best therapeutic agent in the wise practitioner, who is in accord with his patients and holds the confidence of his clients. The genius of the veterinary profession is in the healing of suffering animals; and that is effected by the veterinary surgeon-patient relationship, by and through which the heights and depths of animal nature can be explored. So much of man is animal that by joint efforts with its sister profession of medicine, the veterinary profession may help man to harmonise his antinomies.

> "So foolish is he, and wise—
> despondent and hopeful, patient and complaining,
> courageous and cowardly, diffident and vain,
> cringing and commanding, industrious and idle,
> cruel and tenderhearted, truthful and perfidious,
> imaginative or dull—one man how loveable
> another how hateful, alike man, brutal or divine."
>
> (Robert Bridges.)

Discussion

Dr. F. Bullock: When Dr. Hare gave him an inkling of the subject about which he was to speak in his presidential address, and asked him to open the discussion, he felt it incumbent upon him to say "Yes" because he wanted an opportunity of speaking, on behalf of the Royal College of Veterinary Surgeons, to the first part of the address. He felt that a representative of the College—particularly, if possible, the President—should express to the Central Veterinary Society what were the feelings of the Council for the action taken by the Society on March 30th. As the President could not be there, he must try to fill his place, though those of them who knew that genial giant, T. M. Mitchell, would understand the impossibility of his succeeding, because if he got inside the President's

armour he would rattle very loosely indeed. (Laughter.) If the President were there, however, in person, he felt that he would have wished to say how very warmly the Council appreciated the gesture of the Central Veterinary Society in celebrating their 100th birthday by such excellent means. Those thanks came from the heart. (Applause.)

He would have liked to go over that characteristic address of the President line by line and precept by precept. They all knew that Dr. Hare was an idealist, but he had, during the present year, come to know him a little more intimately, and had seen and learned something of the scope and depth of his studies in various subjects: and he felt—and he was sure they would agree—that Dr. Hare was one of the ornaments of the profession. He believed, too, that his desires and aims were all for the advancement of the prestige and status of his profession. (Hear, hear.)

Dr. Hare had that day, as he said, given them a characteristic address: an American would say perhaps that he had bitten off more than he could chew (laughter) and he knew that Dr. Hare himself felt that he had failed to express completely what it was his desire to express. He wanted to get to the inner heart of things and he was so ignorant that he tried this way and that way to find the direct road to that inner heart. That ignorance, of course, he shared with such men as Sir Isaac Newton, who knew himself to be but picking up pebbles on the sea-shore of knowledge, and so Dr. Hare would forgive his epithet "ignorant." Those of them who were getting older knew that they were getting more ignorant as the years passed over them and the circle of their contact with the unknown expanded.

Dr. Hare had tried to cut off from consideration certain aspects of the veterinary surgeon's life, in order that he might throw into greater relief his central theme, namely, what was the true relationship of the veterinary surgeon to the exercise of his profession? He had expressed it as being the veterinary surgeon-and-patient relationship and he had tried to expound his philosophy in terms of that relationship. A relationship was a mutual thing and was akin to the law of gravity: at any rate, that notion of the continuum known to mathematicians certainly was known in the realm of the spirit; and in the interaction of mind with mind nothing was static, but relative. If it was difficult to find what were the impressions gained by human beings, whose minds we understood, how much more difficult was the task of the veterinary surgeon who, if he was to excite in the animal the sense that the healer was there, obviously had a far more difficult task to perform, for he had no language with which he could communicate his intentions to the animal, no material means to provide that those nervous impulses accompanying mutual sympathy should be excited. If the veterinary surgeon had not got the gift that some veterinary surgeons had of whom the President had spoken, of inducing in the animal the sense that all was well, that there was nothing to fear—if he had not got that he would find it a most important duty to cultivate it. The timid man who had to approach an enraged dog would be in a position where danger faced him: that was the sort of thing he meant.

They had had put before them a series of thoughts all tending to emphasise what Dr. Hare considered ought to be the central and fundamental relationship of the veterinary surgeon to his individual patient. He knew what was in Dr. Hare's mind when he spoke of the opposite view—that it was the herd, the whole flock, that should have the attention of the veterinary surgeon: what he meant, the speaker believed, was that if you were attending a herd it was only by your knowledge of each individual that you could give your report; so that ultimately it was the veterinary surgeon-patient relationship that was the criterion: they must not lose sight of the animal by looking at the herd.

He therefore would like to thank Dr. Hare, on his own behalf at any rate, for his thought-provoking address, and if he might speak to him as one who was a generation older, he would say to him that he hoped he would not lose his faculty to see visions of the future and in the words of an earlier Poet Laureate, he would urge him

> ". . . ere it vanishes
> Over the margin
> After it, follow it,
> Follow the Gleam."

Dr. J. T. Edwards: In the first place, he would like to compliment the President upon the excellence of his address. Within the last few weeks, he had had the pleasure, as Dr. Wooldridge had taunted him, of acting in some measure as an evangelist, going round the Divisions preaching the gospel of their salvation, as it were, and during the course of these travels one or two things had impressed him. One, of course, was the real virility of the profession and its capacity to express itself in public debate. Another was besides the variety of ideals to be found locally and among men and women in the different classes of employment, a something which was somewhat characteristic in the kind of contribution which each veterinary school had made to the common fund. Hence it was that the contribution of the Liverpool school had impressed him as rather characteristic. This was exemplified to him by two of its leading exponents, Mr. H. T. Matthews and Dr. Hare. Of the former, he (the speaker) had said at a public meeting that if he had not entered our profession and become a distinguished ornament within it, judging from his skill in defending a hopeless case, he would have risen to be a leader in the criminal bar. While listening to the President's exposition, not merely of the philosophy of the veterinary art but of what was really its *religion*, he (the speaker) would say that he (Dr. Hare), if he had not entered our profession and also become a distinguished ornament within it, would have become a high Church dignitary.

He would take three points from the President's address to illustrate his meaning. To do this he would draw upon the learning of three eminent veterinary historians—the first was Sir Frederick Smith, the second Professor Leclainche, and the third Wilhelm Riecke.

He would turn to Smith mainly for the origin of the words "veterinary surgery." It was entirely through one of those extraordinary accidents that commonly occur at committee meetings that as a solution to a perplexity a compromise was devised whereby we came to be called "veterinary surgeons." A board of general officers sat in 1796, when Coleman had entered his graduates into the Army to practise veterinary work, and this board wondered what to call them. The word "veterinary" had only appeared in the English language during the 17th century, being first used in a little book published by Sir Thomas Browne, the famous author of "*Religio Medici*." It had to compete for respectability with other terms, such as marshal, farrier, etc., for it was of low Latin origin, *veterinarii* s being the attendant upon the older or draught oxen while the Romans themselves preferred to exalt the healers of animals by attaching some epithet to *medicus—medicus pecorum, mulomedicus, equarius medicus*, etc. As late as 1828, the massive classical scholar and veterinarian Bracy Clark thought the more dignified title to give to the journal which he brought out to expose Coleman was *Farrier and Naturalist*, which he later changed to the name highly respected in later Greek, or Byzantine, culture, namely, *Hippiatrist*. (In the medical world to-day, this form is the familiar designation of certain specialists—Psychiatrist, Pediatrist, etc.). It seemed a pity in many ways that the form did not prevail. The term "veterinary" was gaining popularity, however, on the Continent, especially in France, the cradle of modern veterinary education, though not so much in Germany, where the native word *Tierarzt* (animal doctor) became established. In France, the word came to be used mostly as a substantive (*vétérinaire*), but it was also used quite often as an adjective *médecin vétérinaire*, but never commonly to this day to qualify "surgeon," as *chirurgien vétérinaire*. When the Frenchman Sainbel was appointed in 1791 as first principal of the London Veterinary College, he used the term "veterinary physician." After his death, Coleman, a surgeon and his successor, did not seem to have had any particular fancy. Having contracted to turn out quickly graduates from his school for the Army, much perplexity was caused, as had been said, in deciding what to call them. Already in the Army surgeons were employed to attend to human needs, and these surgeons were often not above—as the civil physicians, of different, namely priestly, origin, certainly were—attending upon animals. The great John Hunter, the "life and soul of the movement" which brought the London Veterinary College into existence, was one of these, and many of them combined, as he did, their surgery with keen interest in natural history.

Many of our most distinguished earliest graduates were also surgeons, and if it had not been for Coleman's jealousy of his own class the surgeons might have remained closely interested in veterinary work to this day, to its lasting advantage. As a compromise therefore the board of general officers decided upon the term "veterinary surgeon," to distinguish the new men specially recruited to attend upon horses from the human surgeons already employed. The term soon caught on as a designation for those engaged in civilian practice, and became the legal designation for the whole body in the Charter of 1844 and the Act of 1881. As Smith rightly stressed, however, the term was a misnomer, for we were ever more "physicians" than "surgeons." William Percivall, when he, also in 1828, founded a journal, decided, probably after consultation with his father, upon the designation *The Veterinarian*, afterwards in the distinguished hands of William Youatt, to play a leading part in shaping our destinies. The word was, however, uneuphonious, and in the mouth of the public it was little wonder that the abbreviation "vet." came to be employed. Indeed, by the time of the grant of the original Charter, and for long years afterwards, when we were mainly employed, in a professional capacity, in attesting the soundness of horses before purchase, the term, used especially as a verb, came to be regarded as synonymous with the submission of the object of a transaction to a competent and trustworthy examination. On the other hand, the common appellation of members of the sister profession ("doctor" denoting the early association of the physician with the learned or priestly class) came to acquire, as a verb, a rather sinister meaning, "to doctor" implying often "to emasculate," "to adulterate," or "to manipulate."

He (the speaker) felt bound to say this much, bearing upon the President's speech, to anticipate what he might later say at the Annual General Meeting, N.V.M.A., for to his mind the public did not seem to mean any offence when they referred to us by our abbreviated title.

The second point he would like to bring out into relief from the context of the President's speech was the reference to the task of the veterinarian in terms of its "philosophy." It was Professor Leclainche who had analysed recently this aspect of our origins with such remarkably fine perspicacity that his conclusions in the main could only be confirmed by further reading of the rapidly expanding sciences of archaeology, anthropology, and mythology. Those of them who came in contact with the men who exercised their professional skill and craftsmanship in the daily exercise of their profession tended to overlook that the calling had its roots deeply buried in the ancient periods of philosophy. Leclainche's researches had brought out clearly that the medicine of man and the medicine of other animals, until then practised since the remotest antiquity by the same cadre of men, were abruptly divorced during the great period of Greek philosophy, when Socrates and Plato in the 4th century B.C., to counteract the imminent decadence in morality arising largely with the progress of knowledge, decided on a new philosophic doctrine, whereby they attributed to man, on no basis of evidence whatever but philosophic argument, a "soul" which was higher than that possessed by other animals. The medicine of Hippocrates which was born contemporaneously submitted to the new philosophic doctrine, while the biological teachings of Aristotle, which were based on comparative study, became neglected. To elevate the human, the animal was therefore debased, and when after the decay of Greece and the fall of Rome and the spread of a theocratic cult along its framework, from the 4th century, A.D. onwards, the Dark Ages were ushered in, and that cult, compounded by the Church fathers mainly from Alexandrian neo-Platonism and Galilean masicho-sadism exercised its tyranny on the human mind, the suffering animal was denied either pity or succour, and the medicine of animals—of "brutes"—became a despised and loathsome calling. This lasted until the time of the rise of the veterinary schools towards the end of the 18th century, and its baneful effects had lasted in large measure to this day.

The third point he would like to bring into relief was the conception so ably developed by the President regarding what was essentially the *professional* relationship, namely, in the practitioner-owner-patient setting, which was one of confidence and of privilege, and in which, as had been said, ethical standards must be of the highest and far above those demanded by the law from the common mass of the population. Here he (the speaker) would fall back on the researches notably of W. Riecke, though Leclainche had made also notable contributions. Parenthetically, he would like to remark upon the lamentable lack of scholarship displayed in several of these recent planning reports of Government committees, which was by no means confined to a pamphlet such as that issued by the Loveday Committee, but was evident also in the report of the Goodenough Committee (which failed therefrom to trace their tangled problem to its very roots, namely, the existence of the three separate medical corporations before the Medical Act of 1858 was passed, so that it had never been possible for the medical profession to experience the blessings, if such they be, of a Single-Portal System). Notable exceptions were the report of the Fleming Committee on the Public Schools, and, of course, the model of profound study represented by the Haldane Commission (1913) report on London University.

As he (the speaker) had already said, after the decay of Western civilisation and the dominance of a theocracy throughout the Dark Ages, with the eclipse of the veterinary art as an honoured calling, it survived as a legacy largely from the Byzantine (which had reached its zenith about A.D. 400) Empire, throughout the Arab Empire for nearly a thousand years, respected and exalted at the great seats of learning from Persia to Spain. Even after the expulsion of the Moors from Spain, the great Catholic monarchs took the practitioners of this favoured art—the *Albeiteras*—under their special patronage, and their governing and examining body, elected from their own members—the *Protoalbertaxiat*—was accorded high privileges. Thus during the era of Spain's greatness, when she was "mistress of the world" travellers from elsewhere in Europe who went to Spain to buy Arab horses—in the Arab world a more precious commodity than the women—were surprised to find that it was not as at home, where the care of sick horses was relegated to the vulgar—to blacksmiths and others—but when they wished to make a purchase they engaged a qualified practitioner. Under pain of severe penalties and expulsion from his privileged corporation, this practitioner was from the moment of engagement committed to a position of trust in which he was under oath bound to reveal in confidence to the prospective buyer, after the exercise of all his skill, any defects in the horse. That, it might be assumed, was the essence of the professional position,

Some time after the founding of the first veterinary school, in Madrid in 1793, the Spanish Parliament (the Cortes) meeting at Cadiz, in a wave of excessive liberalism, in 1813, decided to abolish all privileged corporations, including the *Albeiteras*. The result was that all sorts of universities and teaching bodies competed to supply recruits, after having passed their own several examinations, to this lucrative and honoured calling; the governing body, left without authority and with no effective check on entries, ceased to have any influence on the destinies of the profession, which was then shattered, never to rise to a position of self-respect again, even though after 1880 something was done by conferences of members to try to restore it to its former prestige. It was not denied that world conditions had in the meantime profoundly changed, and there was a compelling demand for technologists and technicians for the proper exploitation of discovery. It was difficult to see how the essence of the professional relationship could, however, change.

And to maintain it at the level at which the public stood in need of it and really demanded it, as had recently been so well said regarding especially the Church, the professional man needed invariably to wield, in the privileged setting to which he was exalted by his qualifications, all the authority to which he was specially entitled and without the fullest exercise of which the public had no real use for him.

After elaborating these three points, he (the speaker) wished to conclude by emphasising the great importance of inculcating in the early training of the veterinarian a proper study of animal behaviour. The President had vividly portrayed this aspect in relation to the differing instincts some individuals had of causing animals either to "bring themselves nearer to" or else "draw themselves away from" them on approach. The subject was indeed a very profound one, psychologically, and he (the speaker) had dealt with it at length elsewhere. It came about from many things which the individual learned from experience in observing animals, such as the location of erogenous zones, the reaction of animals to different sounds, etc. It needed something more, however, in the temper of the veterinarian, his devotion towards and his affection for animals. He would cite two examples from his experience.

The late Mr. Livesey told him (the speaker), shortly before his death, a good deal about the methods which he had employed and had brought him success as a pioneer in dog practice at Hove. After the clients had undergone a preliminary examination by his wife as to their pecuniary circumstances they were ushered into his presence, and it did not usually take him a moment to notice what was really wrong with the animal. The owner, however, entered as one harassed and in trouble, and for ten minutes or so Mr. Livesey made it his custom to allow the owner to unburden what was on his or her mind. He (Livesey) was usually warned that the dog was shy and nervous and would bite him on approach. When that was said Mr. Livesey would put out his hand and would move to the dog and, to the owner's invariable surprise, the dog was friendly and showed pleasure. The neurotic disturbance affecting the owner's mind had therefore been transferred to his most intimate companion, his dog, as to the children of a family where there was discord, and it might well be agreed that 7s. 6d. spent on a competent veterinarian in treating the object of transference, in this case an animal, would be far more likely to be fruitful than £3 3s. or more on a psychiatrist, treating the patient himself or his "difficult" children.

The other example was related to him concerning the late Professor Hobday by Colonel Reid. Invited to his home to dine, while he was still in practice in Kensington, rather late one night, after a packed and extremely busy day operating and doing other things, Professor Hobday was vainly dissuaded by his wife, who noticed him to be very tired, from going out again. He insisted, for he was in duty bound to keep his promise to a poor widow to pay her cat a second visit. And as Colonel Reid added, for all his trouble as he walked with him along the dark streets, he could be getting nothing in the way of money, but his (Colonel Reid's) admiration for the man's devotion to his calling knew no bounds.

The historian would rank both Livesey and Hobday very high as "good veterinary surgeons." Their work was also their "religion." And in this respect they were much finer than some of far greater renown who had recently passed away. That, he submitted, following what was so well said by their President, was the spirit which he believed it was essential to retain and foster if they were to keep our good name with the British public. At the present time, he was assured, our name stood high: no Cronin had arisen amongst us to expose our frailties and purple patches, for, again he was assured, these were negligible. Our good name *in this* country had stood high since the days of Moorcroft, Bracy Clark, Blaine, Dick, the Fields, the Mayers the Goodwins the Cherrys, the Turners, the Kings, the Mavors, Youatt, Percivall, Barlow and many others, most now long forgotten, of their lineage. The address given them by their President deserved study, for he had not been ashamed to say, what others, perhaps not altogether from want of feeling but rather from a British sense of excessive modesty, had been afraid to say: in that way it constituted, he ventured to say a veritable *Religio veterinarii*.

DAIRY RATIONS

As from January 1st until the end of April next the rations allowed to dairy farmers against milk sales will be altered to four units per 105 gallons, coupons being issued in the ratio of one protein to three cereals. This change will not affect the total quantity of the ration but the quality will be improved by the inclusion of a percentage of maize in the cereal portion. There will be no change in the monthly deductions of 15 gallons per cow and 48 lb. of cereals per cow that are at present made in calculating rations. A corresponding alteration will be made in rations for milch goats.

Fattening Cattle.—During the period December to March inclusive, an allowance of ¼ cwt. of protein per beast will be obtainable for cattle being fattened during the winter months for slaughter by the forthcoming spring or early summer—*i.e.*, about 1 lb. per day for the two months prior to slaughter.

* * * * *

PIG AND POULTRY RATIONS

In a joint statement the Agricultural Departments announce that it has now become possible to arrange for a small increase, as from January 1st next, in the basic rations for pigs and poultry. At present, rations are allowed for one-eighth of the numbers of pigs and poultry being kept in June, 1939 (in certain cases the numbers kept in December, 1940, have been accepted), subject to a deduction proportionate to the acreage of the holding. The deduction is one pig for every eight acres and in the case of poultry 1½ birds per acre. As from January 1st, 1945, rations will be allowed for one-sixth of registered numbers in 1939 (or 1940 as the case may be), with an acreage deduction amounting to only two-thirds of the present deduction. Where both pigs and poultry were kept before the war the monthly acreage deduction, at present amounting to 1 cwt. per ten acres of the holding, will be reduced to 1 cwt. per 15 acres. An appropriate increase will also be made in the case of those hatcheries whose rations are based on pre-war purchases of feeding-stuffs.

Some Phases of Sterility in Cattle*†

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Examination and History

It is highly desirable when attempting to do work with the disturbances of reproduction in dairy cattle to obtain accurate breeding records on each animal. The details regarding the pedigree, production and diet are also valuable facts if available.

The examination of the patient is often the only thing that can be done to guide a veterinarian in determining the cause of sterility in the animal or herd under observation. Such an examination should include a careful external examination to note the general state of nutrition that exists. Excessive fatness often accompanies hopeless sterility. In rare instances starvation with emaciation is present.

The appearance of the external genitals will often disclose abnormalities such as the common fibrous thickening of the vulva of cows that are notoriously poor breeders. A vulva of this type usually appears swollen at all times and protrudes posteriorly beyond the perineal region. Parturient injuries may rarely cause the vulvar labiae to become filled with scar tissue. This destroys the function of the vulva as a barrier to external contamination of the mucosa of the genital tract, and is usually accompanied by gaping of the vulva or a turning in of the skin forming the vulvar commissure.

A careful examination of the character of the vaginal and cervical mucous membranes and secretions is often helpful. A pale or slightly pinkish mucosa with a small amount of clear, glassy mucus should be present if the cow is normal. The presence of other types of secretion—watery, muco-purulent, or purulent—suggests that the genital tract is not normal. To make a careful vaginal examination the Cameron speculum has proved very useful. Other specula such as the cylindrical glass speculum or even a Caslick mare speculum, may be used effectively. A special extension light used well within the speculum is preferable to a flash light.

On rectal examination the consistency, position and size of the ovaries, oviducts and uterine cornua and cervix should be determined. The ligaments supporting these structures should be palpated for adhesions, fibrous thickenings and congenital shortness. A very short, tight mesometrium is not desirable, and a greatly thickened broad ligament of the uterus suggests previous serious inflammation of the genital tract. Adhesions between the ovary and oviduct or mesosalpinx are often an indication of serious disease of that ovary.

In practice the findings on a hasty rectal examination of cows and heifers form almost the entire basis for a diagnosis and prognosis. There are several conditions that are discovered by a careful rectal examination which suggest that a safe pregnancy is not likely to occur. These hopeless cases may show one or more of the following conditions:—

1. Double hydrosalpinx, or a cystic distension of each oviduct, means absolute sterility; and if one oviduct is affected a rather poor prognosis may be given.
2. Chronic metritis and cervicitis with a small amount of very yellow muco-purulent discharge usually yields *Corynebacterium pyogenes* on culture.
3. Aberrations in genital development where there is an absence of the uterine horns, cervix and vagina mean absolute sterility.
4. Absence of any genitalia as in the free-martin, is easily detected and such cases are useless except for beef.
5. Hydrometra or mucometra have not generally responded well. Pyometra, if of several months' standing with the uterus containing many litres of fluid, is seldom easily overcome.
6. Lesions in the ovaries, ovarian ventricles filled with adhesions, and more or less chronic metritis and cervicitis are serious combinations that are seldom curable.
7. A macerated foetus in the uterus may mean absolute sterility, whereas a mummified foetus may often be expelled and the cow continue to breed.
8. Foetal bones floating in pus (foetal maceration with pyometra and cervicitis) has nearly always been followed by incurable sterility.
9. A very staggy, fat heifer that has never calved and is past three and a half years of age with fat completely surrounding the rectum and genitals is a type of case that is seldom worth treating. Rectal palpation of the genitals is difficult or impossible.
10. Perimetritis with old adhesions involving the ovaries, oviducts and uterus are suggestive of the existence of incurable changes within the oviducts and uterus.

* Parts of a paper read at the 33rd Annual Conference for Veterinarians at Cornell University, January, 1941.

† Reprinted from *the Cornell Veterinarian*, July, 1943. **33.** No. 3.

11. Tumours of the ovaries, cervix and uterus are rare and treatment is difficult.

12. There are many factors in addition to these which may cause hopeless sterility. One of the most common causes is bad hereditary influence.

A high percentage of dairy cattle with a good breeding history and good hereditary background, if not affected by some of the above conditions, will breed. There may be delayed conception in normal cows and heifers depending on the fertility of the bull with which they are mated. The state of nutrition of the bull and the cows also plays a very important part in the results.

Pregnancy Diagnosis

In addition to a careful examination of the genital organs of cattle to determine what pathological changes may be present, it is important to make a pregnancy diagnosis. The ability to make an accurate diagnosis of pregnancy at all stages of gestation is a prerequisite for attempting sterility work.

Mistakes are unpardonable after a normal dairy cow is 40 to 80 days pregnant. Yet it is easy to make an error unless one concentrates on each case at the time of an examination. It is well known that manipulation of the ovary with removal of a corpus luteum of pregnancy at this time is nearly always followed by abortion in three days.

In most large herds there are a few cows that show the usual external symptoms of oestrum while they are pregnant. Cows should not ordinarily be treated for genital disease when pregnant.

Breeding records should be disregarded and this fact kept in mind. *It is unwise to remove a corpus luteum from the ovary until the uterine horns have been carefully palpated from cervix to apex to be sure pregnancy does not exist.* It may be unsafe to employ hormone therapy for sterility until a cow is determined to be non-pregnant. To impregnate cows artificially is dangerous unless pregnancy has been definitely ruled out. We have seen maceration of the foetus where a layman bred a cow artificially while she was five months pregnant. Also, many cows are guaranteed pregnant at the time of sale on the basis of a rectal examination for pregnancy. Therefore a highly accurate diagnosis is essential.

Pregnancy diagnosis is more easily and accurately done if the operator is properly dressed and the patient restrained in the correct way. Clinic boots, clean overalls (preferably rubber), and a rubber glove with sleeve attached are desirable. Avoid elastic bands or other tight clothing around the armpits or wrists. Rubber gloves or very closely clipped nails are highly essential. In addition, the sleeve or arm should be kept clean and freely lubricated with a non-irritating brand of soap or lubricant. A bar of hard water soap used freely makes the examination less difficult for the operator and the patient. A man to hold the cow's head and one or two men to stand on either side of the cow to hold her from whipping sideways are sometimes necessary. One man should always elevate the tail head rather than turn it aside. This method of lifting the cow's tail permits the arm to enter the rectum without the arm being cramped and fatigued by the tightly clamped tail. It is preferable to stand on the same floor level as the cow and not several inches lower than the cow.

There are many ways to proceed with the examination of the genital tract per rectum to determine pregnancy. A good method is to locate the cervix by swinging the hand from the left iliac shaft of the pelvic girdle around to the right iliac shaft, going over the floor of the pelvis carefully. A more common way is to palpate with the hand held in a cone-shaped manner directly down upon the genital tract near the centre of the pelvic floor.

The cervix may not only be used as a guide but also as a handle to retract the uterus into the pelvis where it can be touched more easily. The uterus may also be retracted by rectal traction on the inter-cornual ligament. If this retraction cannot be done per rectum, the vulva may be washed and the hand inserted and cupped over the cervix. The fingers or forceps should not ordinarily be placed in the cervical canal when attempting to pull the genitals of a pregnant cow back into the pelvic region.

Palpation of the uterus is the most important part of this examination. Too thorough a massaging and measuring of the uterine horns is not desirable because of the possibility of assisting a diseased uterus to expel its contents or contract enough to loosen the foetal membranes.

Palpation of the uterus at 38 to 90 days will reveal one horn larger than the other and both will usually be filled with fluid under tension. The foetal membranes may be felt to be sure one is not dealing with pyometra or hydrometra, or mucometra. The method suggested by Danelius*, of Linköping, Sweden, and shown by Gotze in his film in 1938 at the International Veterinary Congress, consists of picking up the uterus and its foetal membranes first allowing the foetal membranes to slip between thumb and index or other finger. Then the uterus, or dorsal uterine wall, will be felt to slip between th finger and thumb. If there is but one tissue to slip, it will be the uterine wall and it means that the uterus does not contain normal foetal sacs. The middle, or the third fingers have proved to me to be the ones that most easily pick up the uterus and chorion. This simple and infallible test is most easily used at 40 to 95 days of pregnancy. It should preferably not be used before 40 days of pregnancy but is extremely accurate in the dairy cow as early as 40 days of pregnancy. It is more difficult to apply to fat heifers than to older cows. The membrane test is especially easy to apply at the middle or near the apex of the gravid uterine horn. One slip of the membrane is all that is needed and takes less time than to make other tests for pregnancy.

Palpation of the cotyledons after three and a half months of pregnancy is usually easily done on a casual examination. These cotyledons should never be confused with the ovaries, if it is kept in mind that the utero-ovarian ligament (mesovarium) is attached to the medial side of an ovary.

Palpation of the foetus after three to three and a half months is often easily possible by a quick palpation in a downward direction upon the centre of the greater curvature of the pregnant horn. The foetal membranes cannot be as easily slipped between the fingers here as at 40 to 60 days of pregnancy. The above membrane test is not ordinarily required after 100 days of pregnancy.

Palpation of the middle uterine arteries within the broad ligaments just back of the ovaries alongside the cervix and base of the uterine horns is of extreme value. Professor W. L. Williams and most of the men whom he taught came to rely very much upon the tone of these arteries and the tone of the uterine wall to differentiate between pregnancy and chronic metritis, pyometra and tumours. The character of this pulsation is a very useful test but is not as accurate as the slip of the membranes between the fingers.

Speed and accuracy must be attained but absolute accuracy should be the aim of those who make rectal examinations on valuable cattle. Anyone interested in becoming fast and accurate at this type of work should first work as often as possible at an abattoir. Here cows and heifers can be examined and then slaughtered to determine whether the tactile sense is perfect. The following pitfalls are occasionally encountered when making routine pregnancy diagnoses.

There are heifers whose rectum and uterus are surrounded by so much fat that palpation of the genitals is not possible. The correct procedure in such rare cases is to admit that it is impossible to determine exactly what is present until a later stage of pregnancy.

Pyometra, as in trichomonad disease where the dead or weak foetus is floating down at the end of a uterus filled with pus and foetal membranes, is usually called pyometra without pregnancy. A good cervical seal is present in these cases, however, to arouse one's suspicion that typical pyometra without a foetus is not present. In typical pyometra† there is usually a purulent discharge. No foetal membranes are present.

A cow may be diagnosed as positively pregnant and then because of endocrine or uterine disturbances one may find her uterus empty a few days or weeks later. One may find, in rare cases, a mummified or macerated foetus in the uterus several months after a cow has been definitely checked pregnant.

A mummified foetus that is surrounded by a large amount of viscid blood clot that has not completely desiccated is very confusing. A few months later a dry, hard foetus is easily palpable. Such a foetus may be dragged forward so far that it is out of reach and pregnancy of six months is suspected. It is helpful to draw the foetus into reach by the use of cervical forceps placed on the wall of the external os in these rare cases.

The most common error in this work is to fail to palpate each uterine horn from cervix to apex before deciding definitely that the uterus does not contain a foetus and foetal membranes. Such a careful examination is essential in determining the condition of the uterus.

Summary

A brief description of the technique for the examination of the genital organs of cattle and a basis for making a prognosis are given.

An accurate method of determining pregnancy when ordinary methods do not lead to a positive diagnosis consists of slipping the foetal membranes and then the dorsal uterine wall between the thumb and finger.

* Personal communication.

† Fincher, M. G. (1935.) *Cornell Vet.* **25.** 69.

A champion bull at the British Friesian Society annual show and sale at Reading was sold for £3,675.

THE VETERINARY RECORD

December 9th, 1944

ANIMAL PRODUCTION AND ANIMAL BEHAVIOUR

In adjacent columns we furnish an account of the recent meetings of the British Society of Animal Production and the Institute for the Study of Animal Behaviour. As is evident from the proceedings, both Societies are important to the future development of veterinary science, and merit widespread support by the profession.

An American Society of Animal Production has been in existence for many years. The *Proceedings* of its annual meetings, a publication now replaced by the *Journal of Animal Science*, were widely read by all interested in the health and productivity of farm livestock. It is surprising that the formation of the corresponding British organisation has been so long delayed, and even in the Dominions—where scientific livestock production often obtains a far greater degree of support than is the case in Great Britain—only New Zealand has its Animal Production Society. Apart from meetings for the purpose occasionally sponsored by the Section of Comparative Medicine of the Royal Society of Medicine, the Nutrition Society or Divisions of the N.V.M.A., there has been up to now no society in this country where veterinary research workers can meet to discuss the relationship of their investigations to the livestock industry. The Pathological, Physiological, Biochemical and kindred societies, and the Society of Experimental Biology, provide venues at which fundamental research is debated, but not until the formation of the Nutrition Society, earlier in the war, did research and practice come to be intimately discussed at the same meetings. Whatever is or is not classified as a veterinary activity, animal production in this or any other country demands the active co-operation of the veterinarian, and we look forward to the wholehearted participation of members of the profession in all meetings of the British Society.

The Institute for the Study of Animal Behaviour, which once before was discussed editorially in our columns[1], was founded in 1936. It was originally supported by comparative psychologists, field naturalists (especially ornithologists), and professional zoologists, and until recently had but a small veterinary membership. The fundamental contribution of behaviour studies to animal husbandry and clinical veterinary medicine did not appear to be realised sufficiently by practical men and women, but of recent months interest has suddenly awakened and the veterinary and agricultural membership of the Institute has risen manyfold.

Apart from the proceedings recorded in this issue, readers will recall the paper given by Sir George Stapledon to the Central Veterinary Society on March 2nd, 1944[2]. Unless grazing behaviour is appreciated adequately, many problems in agronomy, ruminant nutrition and parasitology will remain unsolved, and it is gratifying to learn that proposals for the inauguration of research into the behaviour of grazing animals have been laid by the Institute before the Agricultural Research Council. The practical scope of animal behaviour is, however, much wider than this, as is evident from Dr. J. T. Edwards' paper[3]. If veterinary practitioners will play their part in the work of the Institute, the results will be of outstanding importance to veterinary medicine and will, as Lapage points out[4], benefit certain aspects of human medicine as well.

[1] *Vet Rec.* (1939.) **51**. 977-979.
[2] *Vet. Rec.* (1944.) **56**. 185-186.
[3] *Proc. Brit. Soc. anim. Production* (forthcoming issue). (Extended versions also to be published in *Veterinary Journal*.)
[4] *Bull. anim. Behav.* (1944.) **1**. (4). 33-35.

REPORT

Meetings of the British Society of Animal Production and of the Institute for the Study of Animal Behaviour

Separate and joint meetings of the above societies were held at the London School of Hygiene and Tropical Medicine on October 24th and 25th, 1944. Dr. John Hammond, F.R.S., took the chair at two of the sessions and Dr. Edward Hindle, F.R.S., at the third.

I.—B.S.A.P. Meeting on the British Sheep Industry (October 24th, 1944)

After an introductory survey by Professor R. G. White (Bangor), Mr. D. H. Dinsdale (Newcastle-upon-Tyne) presented a most valuable paper upon "Hill Sheep," which subject he discussed from the economic standpoint. While there was a complementary relationship between hill and lowland sheep farming, recent trends had emphasised the importance of the foundation nature of hill flocks and the fact that both tended to cater for the same market for fat meat. Most hill farms were small economic units, deriving a small proportion only of their income from sheep and wool. Improvement and rehabilitation policies would, therefore, affect many people. There were physical limits, *e.g.* soil and climate, to improvement as well as economic limits such as prices and capital expenditure. There were also biological questions upon which further data were needed, *e.g.* fluctuations in the annual lamb crop; the replacement of stocks, most hill flocks being self-contained; and selection for hardiness and mothering ability. Mr. Dinsdale concluded with the statement that no single-track solution could be expected, of itself, to restore hill sheep to the place they should hold in a balanced farm economy.

Various members, including Professor Wm. C. Miller, took part in the discussion on Mr. Dinsdale's paper, and stressed the need for a co-ordinated programme of improvement for stock and land, for co-ordination between forestry and agriculture in land use, for social improvement of those engaged in the industry, and for investigations into grazing management practices, including suitable ratios of sheep to cattle, and into losses due to inappropriate selection, subclinical parasitism, and low nutritional levels of the ewe during winter.

Mr. T. L. Bywater (Leeds) then presented a paper on "Sheep for Long Leys," in which he summarised the results of cross-breeding trials carried out by the University of Leeds since 1898, and discussed their relationship to choice of the most suitable stock for flying flocks on long leys. His figures included the number of ewes put to the ram, the number of lambs born per ewe put to ram; the number of lambs reared per ewe put to ram, and data upon live weight gains and age when sold of the lambs. His results indicated that in the flying flock the ewe is more important than the ram—the differences between different breeds of ram appeared to be less than those between different breeds of ewe, and were often surpassed by individual variations within the breed. Mr. Bywater considered that in a flying flock the ewe should be thrifty, able to rear an average of about 1½ lambs per year, be capable of suckling so as to produce not less than 120 lb. live weight of lambs at six months of age or under, and of bearing at least five lamb crops in her lifetime. In the trials reviewed, such characters had most nearly been found in "North" (Border Leicester x Cheviot) and "Masham" (Wensleydale x Swaledale) ewes. The Clun, Kerry Hill, "Greyface" (Border Leicester x Blackface) and Welsh crosses had also proved satisfactory for general purposes. Rams for mating with such ewes should be capable of rapid growth and of fattening readily, and be well developed in loin and leg. In the trials the Suffolk rams had proved most consistently satisfactory, followed by the Oxfords and Hampshires. The necessity of carrying out similar trials in other localities prior to the devising of suitable policies was stressed.

Mr. J. F. H. Thomas (Salisbury) next read his paper on "Arable Sheep." He discussed the economic reasons responsible for the decline in this section of the industry, and the part arable flocks played in the south in the utilisation of large, unfenced and unwatered areas of land on chalk formations and in the maintenance of the fertility of ploughland.

He could not agree that the only future for arable flocks lay in the production of rams for crossing purposes, but thought there were good prospects for the commercial meat-producing flock. The relationship of the intensive system to such factors as parasitism was discussed, as was the scientific neglect of this section of the industry. High fertility and the milking qualities of the ewe had been overlooked in the specialisation for high carcase quality. The value of phenothiazine was stressed by several speakers during the discussion following Mr. Thomas's paper.

II.—Joint Meeting of the Two Societies (October 25th, 1944)

This began with a series of three short communications on certain aspects of current research. Mr. John Hammond, jun. (Cambridge) summarised the results of observations upon the breeding season in sheep and its extension by treatment with pituitary extracts and pregnant mare serum (PMS); these induce ovulation in anoestrous ewes but without heat at the first ovulation. Stilboestrol following PMS failed to accelerate the onset of heat, while conception had not followed the administration of PMS and artificially inseminating the ewe. Under practical conditions the maximum lamb crop could be produced, without treatment, by mating in mid-October and again in February or March, when a second crop could be expected from about 25 per cent. of the ewes. With successful hormone treatment, a natural mating in October could be followed by a second service in June.

Mr. L. R. Wallace (New Zealand and Cambridge) discussed his experiments on the plane of nutrition of the ewe during pregnancy. His animals were divided into four groups—(*a*) those fed on a high plane of nutrition throughout (the "high-high"); (*b*) those fed initially on a high plane but subjected to a poor diet during the last six weeks (the "high-low"); (*c*) those initially fed badly but provided with a high plane during the last six weeks (the "low-high"); and (*d*) those fed on a low plane throughout (the "low-low"). The "high-high" and "low-high" groups were much superior to the others when measured in terms of birth-weight and birth-vigour of the lambs, udder development and milking capacity. At 16 weeks of age the lambs from the "high-high" ewes had an average live weight of 72 lb., as compared with one of 56 lb. from the "high-low" progeny.

Dr. Nancy Palmer (Leeds) presented a general picture of wool growth on a unit area of skin as observed in her work on an inbred Romney flock. The length of fibres appears to be determined by density of follicles at birth, the subsequent rate of expansion of the skin, and the weight of wool produced. In the flock under investigation the last factor has been found to be the same every summer for all sheep, whatever the age.

Dr. J. E. Nichols (Edinburgh) then read a paper on "The Behaviour of Sheep Browsing During Drought in Western Australia," and showed how the preferential grazing of the sheep and their habits of necessary and unnecessary movement were studied parallel with observations on the food values and ecology of different forms of mulga (*Acacia aneura*). As a result it proved possible to devise a satisfactory practical and economical procedure for maintaining the conditions of the stock and for preventing losses by exploitation of the highly developed discriminatory sense of the sheep for the most nutritious shrubs and by conserving their energy through restriction of travel.

Mr. A. N. Worden (Cambridge) then communicated a paper on "The Grazing Habits of Beef Cattle" by Professor D. B. Johnstone-Wallace (Cornell). [The material upon which this paper was based is now in press, and will shortly appear in the *J. agric. Sci.* under the names of Johnstone-Wallace & K. Kennedy.] From close observations upon the grazing behaviour, *i.e.*, time spent in grazing, estimated consumption on pastures of different length and chemical composition, selection of ingesta, frequency and volume of defaecation, etc., it was possible to formulate principles for the most effective utilisation of rotational grazing and for general pasture management practices. Whatever the length of the available herbage, the Aberdeen-Angus and Hereford animals observed had never grazed for longer than about eight hours out of the 24, and only with optimum pasture length of 4 in. to 5 in. were they capable of ingesting a maximum of about 150 lb. of green herbage, or about 32 lb. of dry matter, per day. The idea of rotational grazing was far from new, but in order to make the most efficient use of such practices under a given set of conditions close observations of the type indicated were called for. Our present ideas of what constituted good pasture and good stock and pasture management might require modification.

In the discussions on this and the previous paper it was agreed that there was a need for similar observations in Great Britain. Reference was made to the work of L. J. Boulet at Aberystwyth (*vide* Sir George Stapledon, 1944, *Vet. Rec.*, June 3rd, **56**, 185).

III.—I.S.A.B. Meeting (October 25th, 1944)

Dr. K. L. Blaxter (Shinfield) opened this session with a paper on "Food Preferences and Food Habits of Dairy Cows." He said that experiments in Denmark, the U.S.A. and Great Britain had shown the application of the law of diminishing return to the complex relationship between the food intake of the cow and her milk yield, *i.e.*, as the food intake increased, milk yield increased, but at a constantly declining rate, so that a higher level of feeding produced a greater additional quantity of milk when the plane of nutrition of the cow was already low. The optimal level of feeding dairy cows for profit could not be fixed, for it must vary with both the cost of the cow's food and the selling price of milk. Dr. Blaxter discussed the changeover from pre-war conditions to those of war, when the effort to produce maximum quantities of winter milk coincided with severe changes in the available foods. Experiments had been inaugurated at Shinfield to determine why the cow appeared to be unwilling to eat enough bulky foods to satisfy her nutritive requirements and also what were the maximal milk yields obtainable when the ration was limited to these bulky foods.

Observations showed that refusals of food might occur before mechanical satiation of the digestive tract was reached. There were breed differences and probably one cause of individual variation was that of rumen size. There was some evidence that cows were now more willing to consume bulky foods than at the beginning of the war. When fed a meal containing several foods the cow ate the more palatable first and often when given a heavy meal in the evening she would leave part of her ration to eat during the night. When housed at night cows never slept for long, and in the small hours would eat the residue from the evening meal or, if nothing else was available, their bedding. Individuals varied considerably in the rate at which they consumed different foods and also in the time taken to consume a meal consisting of a single food. The time taken to consume the same sized meal of 20 lb. of mangels varied from 14 minutes to 24 minutes; in the case of 6 lb. of hay from 35 to 65 minutes; and in the case of 5 lb. of cattle cubes from five to eight minutes. For standard meals of mangels there was a distinct positive correlation of 0·4 between the time taken to eat and the body weight of the cow. Under systems of "herd rationing" in yards or on pasture it was probable that the larger cows not only ate more food and ate it more quickly, but tended to eat the preferred more nutritious parts of the ration first and thus prevented the smaller heifers from access to these parts, particularly when distribution over the yard or pasture was uneven. After a consideration of other relevant results of the experiments, Dr. Blaxter concluded by emphasising the importance of individual attention and by suggesting that a consideration of the behaviour of dairy cows and their habits under different systems of management was certainly one method of increasing milk production.

The final paper was read by Dr. J. T. Edwards (Pirbright) on The Study of Animal Behaviour from the Veterinary Standpoint. [The material upon which this paper was based is now in press in the *Vet. J.*] Dr. Edwards analysed the development of the study of animal behaviour and its general importance from the aspects of natural history and psychology, as well as in its didactic and economic considerations. He exemplified the practical importance of animal behaviour by reference to grazing behaviour and its parasitic implications, and by the papers presented at the fifth and culminating meeting of the 1943-44 session, the year of his Presidency, of the Section of Comparative Medicine, Royal Society of Medicine. [This meeting, which was held in conjunction with the I.S.A.B., was reported in the *Proc. R. Soc. Med.*, 1944 (September), **37**, 658. The papers presented were: *The comparative study of instincts* (C. S. Myers); *The types of animal learning and their relation to the problem of instinct* (W. H. Thorpe); *Grazing management practices and their relationship to the behaviour and grazing habits of cattle* (D. B. Johnstone-Wallace & K. Kennedy); and *Comparative sexual behaviour of the male* (A. Walton).] He pleaded for the provision of systematic research on animal behaviour at institutes dealing with problems of animal husbandry and agronomy, and for the incorporation of appropriate courses at least into the veterinary curriculum. There was a profitable discussion following the paper, many veterinary members taking part.

[Membership of the British Society of Animal Production costs 10s. 6d., and that of the Institute for the Study of Animal Behaviour 12s. 6d. per annum. Appropriate nomination is necessary in each case. Those interested should apply to Dr. J. E. Nichols, Imperial Bureau of Animal Breeding and Genetics, King's Buildings, West Mains Road, Edinburgh, 9 (for the B.S.A.P.) and to Miss Eileen M. Kenison, Zoological Society of London, Regent's Park, N.W.8 (for the I.S.A.B.).

Members of the I.S.A.B. who are not also members of the B.S.A.P., but who wish to obtain the issue of the Proceedings of the B.S.A.P. which is to contain records of *all three* meetings reported above, should apply to Dr. Nichols at the address given.]

CLINICAL COMMUNICATION

Sub-acute Glomerulonephritis in a Mare

H. E. WILLIAMS-JONES, M.R.C.V.S.
Ruthin

Subject.—A 5-year-old Shire mare.

History.—The mare had been in excellent health and foaled without assistance at the end of May, 1944. Six days after foaling she was served by a pedigree Shire stallion and two days later was noticed to be stiff in the hindquarters.

Examination.—Rectal and vaginal examination did not reveal any evidence of injury or abnormality. Appetite was good and pulse and temperature were normal. Urine was normal in colour and consistence: there was no polyuria.

At a second visit, some days later, the pulse was rapid and irregular and the mare had become very emaciated. Tonics and potassium iodide were prescribed.

Three weeks later the mare was very lame, the lameness alternating between the near and off hind legs. Iliac thrombosis was excluded by rectal examination.

Eight weeks after the first visit a deep rectal examination was carried out and revealed a considerably enlarged left kidney, bean shaped and constricted at its centre: the organ pitted on pressure and palpation caused severe pain. Temperature 103° F., pulse irregular, appetite good. There was marked emaciation and the animal was very lame.

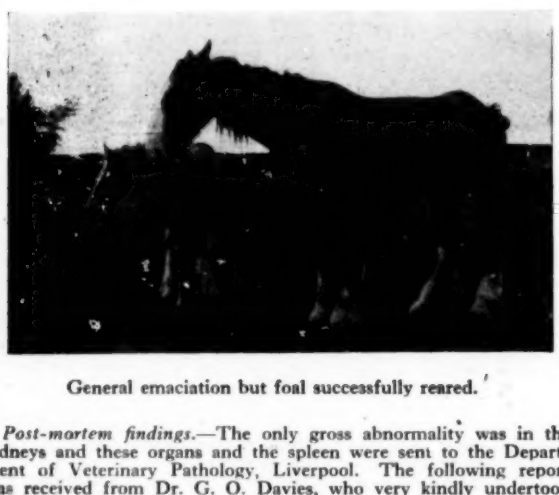
Examination of the urine showed:—

Albumin +++. Blood—slight trace.

Centrifuged deposit contained renal cells, granular and hyaline casts, polymorphonuclear leucocytes, and degenerated red blood cells.

In spite of treatment with diuretics and sodium phosphate (3iii b.i.d.) the mare died three months after the first visit.

No. II.—Pyelonephritis in Mare



General emaciation but foal successfully reared.

Post-mortem findings.—The only gross abnormality was in the kidneys and these organs and the spleen were sent to the Department of Veterinary Pathology, Liverpool. The following report was received from Dr. G. O. Davies, who very kindly undertook the examination in spite of the rapid decomposition which had occurred when the organs were received at the laboratory:—

"*Spleen.*—Measured 22 × 11 in., a little above the average but of little significance.

Kidneys.—Very decomposed: bacteriological examination was impossible.

Left kidney.—Weight* 7 lb. 1 oz. Size 12 ×9 × 3 in.

Right kidney.—Weight 7 lb. 10 oz. Size 10 × 10 × 3 in.

The glomeruli were very extensively damaged, some showing hyaline changes, and others almost obliterated by fibrous changes. The interference with the circulation caused by these changes seemed to have caused widespread degeneration and necrosis of the tubular epithelium. There was also some fibrous tissue proliferation in the intertubular tissue. The evidence suggested the pathological process present to be a subacute stage of glomerulonephritis, sometimes spoken of as 'Large White Kidney.'"

* Sisson gives the average weight of each kidney in the horse as approximately one-and-a-half pounds.—H. W.-J.

ABSTRACTS

[Mastitis in Heifers following Injury by the Horn Fly, *Haematobia serrata* Desv. Sanders, D. A. (1944.) *J. Amer. vet. med. Ass.* **104**. 284.]

The author draws attention to the habits of the blood-sucking muscid, *Haematobia serrata* Desv. in Florida. This fly punctures the skin in the region of the udder, particularly the teats and adjoining tissues. This results in haemorrhagic lesions, erosions and scab formation of the teats accompanied by abnormal udder secretion. Micrococci, staphylococci, diplococci and streptococci can be obtained from these lesions. Similar organisms were obtained from the udder secretion of affected yearlings and pregnant heifers. At the time of calving, these infections frequently resulted in permanent damage to the udder tissues. As the infections occurred in beef heifers on the range and in dairy heifers isolated from the older animals the author considers that direct transference of the organisms can be ruled out, and that infection is initiated by *Haematobia serrata.*

No experimental evidence or bacteriological details are given in support of this view.

D. L. H.

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[Sulphasuxidine and Sulphathalidine for Infectious Calf Scour. Thorp, W. T. S., Pisciotta, V. J., and Grundy, C. B. (1944.) *J. Amer. vet. med. Assoc.* **104**. 274.]

The two sulphonamides tested by the authors have their primary amino groups condensed with a carboxyl group to form substituted acid amides, causing the drugs to be slowly absorbed from the bowel. A series of toxicity and dosage trials was performed on six calves with sulphasuxidine and on four calves with sulphathalidine. The therapeutic dosages recommended are 0·5 gramme sulphathalidine and 0·25 gramme sulphasuxidine per kilogram body weight. Two to four times these doses failed to produce toxic effects, and a histological examination of the liver, spleen and kidney revealed no tissue changes. The concentration of the drugs was estimated in blood, urine and faeces. The blood concentrations were low and the small amounts of the drugs that were absorbed were readily eliminated by the kidneys. The total number of coliform organisms in the faeces was found to be reduced following administration of these drugs.

A clinical trial on 85 calves suffering from infectious calf scour resulted in the recovery of all except six animals.

D. L. H.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Dec. 13th.—Meeting of the Editorial Committee, N.V.M.A., 36, Gordon Square, London, W.C.1, 2.30 p.m.

Dec. 14th.—N.V.M.A. Committee Meetings, 36, Gordon Square, W.C.1: Finance and General Purposes 11 a.m.; Joint Veterinary Officers and Public Health and Parliamentary, 2.30 p.m.

Dec. 15th.—Ditto: Nominations, in connection with Standing Committees for 1944-45.

Dec. 15th.—**N.V.M.A. Council Meeting,** at Friends' House, Euston Road, London, W.C.1, 12 noon.

Dec. 20th.—Meeting of the Section of Comparative Medicine, Royal Society of Medicine, 1, Wimpole Street, W.1, 2 for 2.15 p.m.

Dec. 30th.—Whole-day Conference of the Nutrition Society, at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1, 11 a.m.

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Roll of Honour

Flight-Sergeant James Ralph Patterson, M.R.C.V.S.

We learn with very deep regret that Flight-Sergeant James Ralph Patterson, M.R.C.V.S., the tall and enthusiastic young airman who visit to these offices we enjoyed as recently as November 13th, lost his life on an operational flight on November 21st. His Wing Commander has written, "James was very much respected and admired by us all and we feel his loss very keenly. His cheerfulness and courage have always been an inspiration." Profound sympathy will be extended to Mr. and Mrs. A. B. Patterson, of Chelmsford, and their daughter, in their second loss at the call of duty, J. R. Patterson's brother "Sandy," who was a Territorial

and joined the colours some weeks prior to the outbreak of war, laying down his life in January, 1940. A member of the N.V.M.A., James Patterson was a promising and popular young veterinarian whose loss will be mourned by his colleagues. He qualified at the London College on December 6th, 1940.

* * * * *

PERSONAL

Forthcoming Marriage.—Welch—Knapp.—The engagement is announced between Lieutenant Arthur George Welch, R.A.V.C., only son of Mr. and Mrs. E. A. Welch, Lindum Lodge, Sewell Road, Lincoln, and Moyna Elizabeth Knapp, second daughter of Mr. and Mrs. S. Knapp 24, Garfield Road, Ryde, I.O.W.

. . . . .

The Steele-Bodgers and Cambridge Football.—Mr. E. J. Heather, of Oxford, writes: "This issue of *The Veterinary Record* would be incomplete without a congratulatory reference to Mr. Steele-Bodger's two sons on representing Cambridge in last Saturday's inter-university matches under both codes of football.

"I had the pleasure of being present at the rugby match in Oxford and can testify that Mr. Robertson-Glasgow's description of 'M.R.' as 'that admirable forward' erred, if at all, on the side of understatement. Steele-Bodger claimed Cambridge's share of the two tries scored and, towards the end of the day, when the notorious tackiness of the Iffley Road ground combined with the speed of the game to force natural exuberance to resign place to studied determination, he possessed still the life and legs of the opposition."

It will be appreciated that this duality of "colours" presented Mr. and Mrs. Steele-Bodger with something of a problem in choosing between Oxford and Cambridge as their destination for Saturday afternoon. We understand that, in appropriate fashion, the spin of a coin decided the issue, bringing as its reward the opportunity of witnessing probably the finest match of the war-time series and Michael's great and vital try. Our readers' reactions to the failure to convert doubtless represent another draw.

* * * * *

Weekly Wisdom

"*. . . I thank you for your experiment on the hedgehog; but why do you ask me a question by the way of solving it? I think your solution is just; but why think? Why not try the experiment? Try the heat (of the hedgehog) and let me know the result.*"—Extract from a letter written in 1775 by John Hunter to Jenner.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

* * * * *

AN OUTBREAK OF BOVINE TUBERCULOSIS DUE TO UDDER IRRIGATION

D. McFarlane, G. S. Garside, P. S. Watts and J. T. Stamp

Sir,—In the article under this heading published in *The Veterinary Record* of October 7th, the authors described an investigation of an outbreak of tuberculosis in an attested herd where the infection had apparently been introduced during udder irrigation in the treatment of mastitis.

As the unfortunate breakdown occurred in my area I had ample opportunity of observing the subsequent investigation and naturally have read the published account with special interest. Unfortunately I cannot agree with all the submissions made by the authors although I would pay tribute to the skill they displayed during the *post-mortem* examinations and exhaustive laboratory investigations which followed. Exception, however, is taken to their statement that it is clearly recognised by competent clinicians that the diagnosis of mammary tuberculosis by clinical examination is, in a great many instances, impossible, and that this difficulty was well shown in the present instance. Again, in their summary the frequent impossibility of clinical diagnosis of tuberculosis of the bovine mammary gland is stressed.

Apparently the authors failed to appreciate that the carcases they examined were those of animals which the Veterinary Inspector conducting the investigation for the Ministry had caused to be slaughtered under the Tuberculosis Order after clinical inspection and positive microscopical samples of milk. Of the seven cows with tuberculous udders, six were detected by clinical means, and only one required biological examination of the milk to confirm diagnosis. It must also be emphasised that this clinical inspection was the first which had been carried out by the Ministry following the introduction of the infection, and any unofficial examinations of the udders which might have been made during the intervening period between the introduction of infection and its recognition would be extremely misleading for the practitioner making them, for here was an attested herd, known to have been tuberculosis free for years, but with a history of mastitis which, in fact, was being treated. In such circumstances it is surely unfair to stress the apparent failure of clinical examination to establish the presence of tuberculous infection.

In my experience clinical inspections followed by careful microscopical examination of suspected milk samples have been instrumental in detecting a high percentage of cows giving tuberculous milk. In this connection the following figures may be of interest. They refer to investigations carried out in an English county following complaints received under Section 4 of the Milk and Dairies (Consolidation) Act, 1913.

Year	*Total No. of Cows found giving Tuberculous Milk.*	*No. of offending Cows found on first clinical exam. and micro. exam.*	*No. of o.c's found on 2nd clin. and micro. exam.*	*No. found after Biological exam.*
1934	159	110	30	19
1935	206	152	34	20
1936	190	145	30	15

While these figures indicate that a number of tuberculous udders were only confirmed after biological examination of the milk, they also show that a great many more were quickly detected by clinical examination backed by microscopical examination of suspected milk samples.

My main object in drawing attention to this matter is to contest the inference that routine clinical examination is of little value, and I would welcome support of my submission that routine herd inspection together with microscopical examination of suspected material is very effective, so far as early diagnosis of "open" tuberculosis is concerned. One must in honesty add, however, that it does little if anything to reduce the incidence of the disease.

Yours faithfully,

A. B. Kerr,
Superintending Inspector.

"Willowbank,"
Old Edinburgh Road, Moffat.
November 24th, 1944.

* * * * *

SIX-DAY CHICK DISEASE

Sir,—Those of your readers interested in the diseases of poultry will have read with very great interest the recent contribution by Messrs. Temperton and Bythell on the above malady. Their investigations are noteworthy and deserve critical examination, and I would like to comment on certain aspects of the disease, as well as to offer to the authors hearty congratulations.

The suggestion that six-day disease is due to a deficiency of metabolisable energy (starch) must be unique in dietetics, because there is no comparable disease of the domestic animals, or man, where the aetiology is concerned with a deficiency *per se* of starch in the diet. But assuming this to be the case, (1) What bearing has the deficiency on the fact that certain chicks die and show *post-mortem* unabsorbed yolk sacs, whereas others do not die until the 14th day—presumably with their yolk sacs absorbed? The discovery of unabsorbed yolk sacs usually suggests either errors of management or weakness in the chicks—and not, I submit, a deficiency of starch in the diet. Furthermore, in the absence of infection, I do not know that one should consider that unabsorbed yolk sacs will vary in colour "from brick-red to dirty grey-green."

(2) What bearing has the nephritis and hypertrophy of the kidneys reported by the authors to a deficiency of metabolisable energy—unless it is to be considered that these changes are caused by a "failing circulation prior to death"?

(3) If the disease is one of lack of energy—why should the chicks "exhibit marked activity"?

(4) Why does the disease terminate with its characteristic abruptness at the 12th to 14th day if it is caused by a starch deficiency? Physiologically it is possible that at this age the caecal tubes are functioning much more efficiently, and thus able to contribute a portion of the metabolisable energy required; but if so this is a new fact to be added to those already known concerning the physiology of the hen's digestive tract.

(5) If the main cause of the malady is a deficiency of starch why should losses be reduced from 28 per cent. to 15 per cent. solely by supplying beta-carotene 0·66 gramme per 50 lb. of mash?

(6) Why did the mortality amongst the experimental chicks fed on the control mash go up from an average of 26 per cent. to 42 per cent., when the only change was a substitution of 5 per cent. millers' offals for 5 per cent. palm kernel cake?

(7) Similarly, why did the inclusion of 20 per cent. extracted P.K. meal reduce the mortality from 44 per cent. to 30 per cent.?

(8) If it is suggested that there is insufficient metabolisable energy to maintain life in a mash containing 30 per cent. by weight

of ground wheat, why were the four farmers who "had started to use a little cut wheat in addition to the mash" finding this protective?

Furthermore, why was "30 per cent. of a vitamin concentrate (wheat germ)" so fully protective that "no deaths occurred." Surely its content of starch cannot have been so high when, after all, only 30 per cent. of the diet consisted of the concentrate proper?

Readers will appreciate that the writer still has some doubt as to the advisability for assuming that six-day disease is due solely to a lack of starch or other available energy in the ration, in spite of Temperton and Bythell's excellent work.

I would like to draw attention to Almquist's work on glycine deficiency in the chick, an abstract of which appeared in the *Veterinary Bulletin*, January, 1944, p. 20. He showed that a deficiency of this essential amino-acid is characterised by poor growth, muscular under development, extreme weakness and a low muscle creatine content.. In the chick glycine and arginine are precursors of creatine and feathers contain 9·5 per cent. glycine and 6 per cent. of arginine—therefore a deficiency of these substancs is most marked in rapidly feathering strains. May this not be a factor in the onset of six-day disease, because Temperton and Bythell state quite clearly, "It was very noticeable by the end of the first week that a proportion of the chicks were showing excessive feathering? The feathers of the wings and tail are abnormally long, and by the end of the second week were trailing on the ground. This condition *was always observed* where the death-rate was typical and the condition diagnosed. (Italics mine). The mortality was apparently higher among these birds, whose feathers seemed to grow at the expense of the body which remained stunted even in the survivors."

I hazard a guess, therefore, that the symptomatology of six-day disease may be related to an amino-acid deficiency due to rapid feathering, and not solely to a deficiency of metabolisable energy in all-mash chick-starter rations.

Yours faithfully,

County Hall, Lewes, Sussex. W. P. Blount.
November 27th, 1944.

* * * * *

MEETING OF THE NORTH OF IRELAND DIVISION, SEPTEMBER 15th, 1944

Sir,—As reported in the current number, this Division has unanimously expressed its approval of the Loveday Committee's Report. Does this mean that the reservations or safeguards stated by Dr. Lamont are included or not? The report is not clear, perhaps the Doctor will amplify. May I also ask Mr. Magowan why, after 100 years of distinguished service by the profession, it is now desirable to hand over our patrimony for an intangible mess of suggested pottage?

If we did as we have done when in poverty and ostracised, what might we not accomplish with reasonable assistance financially?

It is abundantly clear that all forms of education have to be improved and given extra financial assistance. We are bound to be given equal consideration, Loveday Report or no.

The audacity of the Loveday Committee in saying that "A university canont be expected to interest itself in veterinary teaching unless its degrees will confer the right to practise" merits our strongest rebuke and challenge, on the ground that this statement is contrary to all the established practice of universities.

Yours truly,

Trimley, J. Campbell Hill.
Ty'rfrun Avenue, Llanelly.
November 25th, 1944.

* * * * *

CANINE DISTEMPER: A PLEA FOR NOTIFICATION

Sir,—Once more I will attempt to get some action in respect of the matter of making strong representations to have canine distemper included in the list of notifiable diseases.

It seems to me to be a scandalous dereliction of duty on the part of ourselves and the powers that be that nothing has been done to control this devastating disease of the canine race or to improve the financial aspect to owners of valuable dogs. Despite more than ordinary care to avoid the contagion, village mongrel pups roaming at large have caused losses of at least two thousand pounds to clients of mine within the past six months; one man lost a litter for which he paid £750.

It is beyond all sense and reason that there is no control of the disease, and it is certain that legislation will meet with strong support.

Yours faithfully,

The Willows Bungalow, R. F. Wall.
Maidenhead Road, Windsor.
November 22nd, 1944.

"SOME CLINICAL DIAGNOSTIC METHODS OF USE IN CONDITIONS ASSOCIATED WITH ANIMAL PARASITES"

Sir,—In her letter in *The Veterinary Record* on November 25th, Miss Bingham says that she made no specific reference to periodicity in her original paper. That this is incorrect is shown by the following quotation:—"Because the shedding of oöcysts occurs in regular cycles it may be that at the time of examination the mature stage of the parasite has not been reached and oöcysts will not be found in the faeces."

If the list of references in the same letter, dealing mainly with *diurnal* periodicity in oöcyst output, is intended to rebut my criticism, which was obviously directed against Miss Bingham's view of periodicity, I would point out: (*a*) It would be very unwise to slaughter an animal for diagnostic purposes after a *single* negative examination of faeces, when a second examination within 24 hours should allow a definite examination to be made, and (*b*) It is beyond the bounds of credibility that the *diurnal* variation in the output of oöcysts should result in the intestinal contents becoming free of the parasite between periods of maximum production.

I do not propose to pursue this matter any further.

Yours faithfully,

Wroxton, Chorleywood, Herts. A. Leslie Sheather.
November 28th, 1944.

* * * * *

THE FUTURE OF THE PROFESSION

Sir,—I have somewhat belatedly received copies of *The Veterinary Record* for August and September, and these have been circulated among some of us out here.

We have read with a somewhat ironic amusement the attempts of practitioners to attract assistants with salaries of £500 per annum and more. The advertisements appear week after week, apparently with little or no success, and yet it is only three years ago when there were 30 or 40 applications for each post advertised, and the applicant who wanted the least got the job, especially if he only wanted one or two pounds per week and his keep, as was frequently the case.

Surely before we make intricate plans for the education of future members of the profession, it would be better to set our own house in order and to make the profession more stable and more attractive.

A minimum salary is laid down for Municipal and Government Veterinary Officers of £400 per annum. In the same way, would it not be possible to fix a compulsory minimum salary of £6 6s. per week for freshly qualified assistants, with a one guinea per week increase for each year's experience up to four years?

Unless some such provision is made, the younger members of the profession, in the Services, know full well that as soon as demobilisation commences salaries will drop with a "bang," and will revert to the old conditions, which, after all, were little better than "sweated labour."

Yours faithfully,

c/o Lloyds Bank, Ltd., Bombay. R. H. M. Coulter.
November 12th, 1944.

* * * * *

THE ABBREVIATION "VET"*

Sir,—I have very sincerely enjoyed reading your periodical and have profited from the various discussions.

In regard to the point brought up by Mr. Steele-Bodger about the abbreviation "Vet," it has also created some apprehension amongst members of the profession here in the United States. We prefer to be called "veterinarians." "Veterinary" is an adjective, while the term, "Veterinary Surgeon" describes only a small part of the work done by the average veterinarian. The abbreviation "Vet" is also applied to veterans of the military services. Since the word "Veterinarian" adequately describes our work and has little taint of snobbishness to which someone has objected, why should not this be the term used to designate members of the veterinary profession universally?

Yours faithfully,

Sullivan, Wisconsin. Howard O. Weber, D.V.M.
November 16th, 1944.

* In courtesy to our American colleague, the recent intimation of closure of this correspondence is waived in this instance.—Editor.

Advertiser's Announcement

HYPHOLIN in Veterinary Practice

Hypholin is a highly potent preparation containing penicillin and other antibiotic metabolites, together with the living *Penicillium notatum* hyphae at their highest rate of antibiotic-producing activity.

Following the very promising results of trials with Hypholin in human therapeutics, a special form of this material, showing a potency equivalent to over 100 units of penicillin per c.c., is now available for use in veterinary practice.

A brochure outlining the history, indications and dosage, together with details of packings and prices, is available to veterinary surgeons, on request, from the manufacturers, Watford Chemical Co., Ltd., 50, South Audley Street, Grosvenor Square, London, W.1.